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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/153,831	09/15/1998	STEVEN J. EBERBACH	94-906CIP	6100

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EXAMINER

LEE, PING

ART UNIT	PAPER NUMBER
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2644

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DATE MAILED: 12/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/153,831

Applicant(s)

EBERBACH, STEVEN J.

Examiner

Ping Lee

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1 and 2 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification as originally filed fails to disclose that over an included angle between the maximum and minimum, the amplitude of each sound field versus angle changes opposite the other. The closest figures relate the claimed "sound fields to emanate substantially from said single point in plan view" are Figures 37 and 38. However, the related text regarding these two figures fails to explain the claimed relationship "between the amplitude of each sound field versus angle changes opposite the other". The apparent difference between Fig. 37 and Fig. 38 is the widened included angles between sound fields 252 and 250. Applicant is silent about the amplitude changes, and how to obtain the amplitude changes. There are two arrows from the sound fields 252 and 250. It is unclear what those two arrows are.

The claimed "angle" is ambiguous. Which angle is this? As pointed out before in the last office action, Fig. 10A illustrates a graph with three different responses with three different angles. However, the smallest angle (0 degree) does not have the

highest amplitude response. It is the angle at 325 degrees providing the highest amplitude level. This contradicts the claimed limitation. Furthermore, it is unclear of the purpose of this limitation in view of Fig. 10A.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Gefvert (US 5,533,129).

In view of 112, 1st paragraph rejection above, the claim is being rejected under broadest interpretation.

Gefvert discloses a stereo surround sound reproduction system comprising in combination at least one loudspeaker (10) having at least two drivers (72, 76), at least two channels from an electric signal source (78). Although not clearly shown, each sound field (generated from left or right speaker) has a maximum and minimum with a gradient. The sound fields are partially superimposed.

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by McShane (US 5,117,459).

In view of 112, 1st paragraph rejection above, the claim is being rejected under broadest interpretation.

McShane discloses a stereo surround sound reproduction system comprising in combination at least one loudspeaker (10a) having at least two drivers (32a, 30a), at least two channels from an electric signal source (Fig. 2). The partially superimposed sound fields are shown in Fig. 1.

Regarding claims 1 and 2, McShane shows the two sound fields emanating in non-parallel directions substantially from a point in space in plan view. Although not explicitly shown, at least one of maximum and the minimum with a gradient of each sound field are inherently existed.

Response to Arguments

6. Applicant's arguments filed 9/12/03 have been fully considered but they are not persuasive.

Applicant argued that specification provides support for the 112, 1st paragraph rejection.

Examiner disagreed. Applicant explained the purpose of controlling the position of the virtual sound image emanating from the single cabinet, but this is still far short of explaining and point out which section in the specification as originally filed explain the claimed "amplitude of each sound field versus angle changes opposite the other".

Which "amplitude" is this? what "angle" is this? What is the closest figure corresponds to the claimed invention in claims 1 and 2. If applicant cannot distinguish this limitation, then the claimed invention is nothing more than the speaker layout as shown in the cited references.

Applicant argued that Gefvert fails to teach opposing sound fields and gradients.

As shown in Fig. 4B, the directivity of left speaker is different from the right speaker. Therefore, they have opposing sound fields. Since their sound fields are superimposed, there is a gradient.

Applicant argued that McShane fails to teach opposing sound fields and gradients and with only one loudspeaker with separate right and left speakers the sound image can be moved.

As shown in Fig. 1, the directivity of left speaker (30) is different from the right speaker (32). Therefore, they have opposing sound fields. Since their sound fields are superimposed, there is a gradient. With respect to the argument of the moving sound image, this limitation is not a part of the claimed limitation.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2644


the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 703-305-4865.

The examiner can normally be reached on Monday and Tuesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.


Ping Lee
Primary Examiner
Art Unit 2644

pwl
November 28, 2003